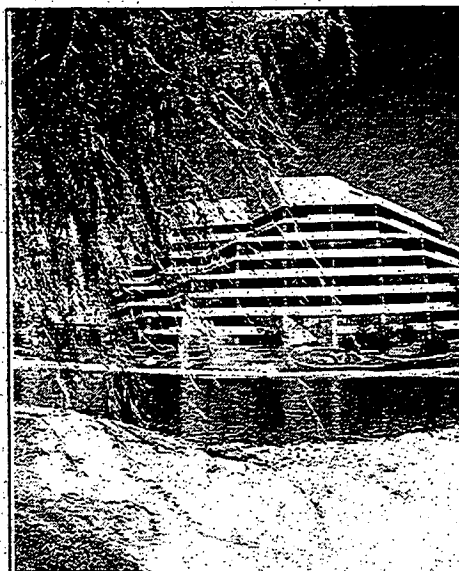



OCTOBER 1993

North Bethesda-Garrett Park Master Plan



*STAGING
AMENDMENT
TO THE
1992
MASTER PLAN*




**PUBLIC
HEARING
(PRELIMINARY)
DRAFT
PLAN**

Published by the

**MONTGOMERY COUNTY
PLANNING DEPARTMENT**

8787 Georgia Avenue,
Silver Spring, Maryland 20910-3760

ABSTRACT

TITLE: Public Hearing (Preliminary) Draft Staging Amendment
North Bethesda-Garrett Park Master Plan

AUTHOR: The Maryland-National Capital Park and Planning Commission

SUBJECT: North Bethesda-Garrett Park Master Plan
Public Hearing (Preliminary) Draft Staging Amendment

DATE: October, 1993

PLANNING AGENCY: The Maryland-National Capital Park and
Planning Commission

SOURCE OF COPIES: The Maryland-National Capital Park and
Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910-3760

NUMBER OF PAGES: 38

ABSTRACT: This publication contains the text with supporting maps and tables for the Public Hearing (Preliminary) Draft Staging Amendment to the 1992 North Bethesda-Garrett Park Master Plan. It will also amend some elements of the Master Plan of Highways and the Master Plan of Bikeways.

PUBLIC HEARING (PRELIMINARY) DRAFT

STAGING AMENDMENT TO THE NORTH BETHESDA-GARRETT PARK MASTER PLAN

October, 1993

An amendment to the 1992 Master Plan for North Bethesda-Garrett Park; the Master Plan of Highways within Montgomery County, as amended; and the Master Plan of Bikeways, 1978, as amended; being also an amendment to the General Plan for the Physical Development of the Maryland-Washington Regional District.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**8787 Georgia Avenue
Silver Spring, MD 20910**

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

The Maryland-National Capital Park and Planning Commission is a bi-county agency created by the General Assembly of Maryland in 1927. The Commission's geographic authority extends to the great majority of Montgomery and Prince George's Counties; the Maryland-Washington Regional District (M-NCPPC planning jurisdiction) comprises 1,001 square miles, while the Metropolitan District (parks) comprises 919 square miles, in the two Counties.

The Commission has three major functions:

1. The preparation, adoption, and, from time to time, amendment or extension of the General Plan for the physical development of the Maryland-Washington Regional District;
2. The acquisition, development, operation, and maintenance of a public park system; and
3. In Prince George's County only, the operation of the entire County public recreation program.

The Commission operates in each county through a Planning Board appointed by and responsible to the county government. All local plans, recommendations on zoning amendments, administration of subdivision regulations, and general administration of parks are responsibilities of the Planning Boards.

The Maryland-National Capital Park and Planning Commission encourages the involvement and participation of individuals with disabilities, and its facilities are accessible.

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THE MASTER PLAN PROCESS

Staff Draft Plan - This document is prepared by the Montgomery County Planning Department for presentation to the Montgomery County Planning Board. A Public Hearing (Preliminary) Draft Plan is then prepared for approval to go to public hearing by the Planning Board. The Public Hearing (Preliminary) Draft Plan incorporates those preliminary changes to the Staff Draft Plan that the Planning Board considers appropriate.

Public Hearing (Preliminary) Draft Plan - This document is a formal proposal to amend an adopted master or sector plan prepared by the Montgomery County Planning Board of The Maryland-National Capital Park and Planning Commission. It is prepared for the purpose of receiving public hearing testimony. Its recommendations are not necessarily those of the Planning Board. Before proceeding to publish a Planning Board (Final) Draft Plan, the Planning Board holds a public hearing. After the close of the record of this public hearing, the Planning Board holds open worksessions to review the testimony and to revise the Public Hearing (Preliminary) Draft Plan.

Planning Board (Final) Draft Plan - This document is the Planning Board's recommended Plan. After October 1, 1992, changes in the Regional District Act require the Planning Board to transmit the Plan directly to the County Council with copies to the County Executive. The Regional District Act then requires the County Executive, within sixty days, to prepare and transmit a fiscal impact analysis of the Planning Board (Final) Draft Plan to the County Council. The Executive may also forward any other comments and recommendations regarding the Planning Board (Final) Draft Plan within the sixty-day period.

After receiving the Executive's fiscal impact analysis and comments, the County Council may hold a public hearing to receive public testimony on the Plan. After the close of record of this public hearing, the Council's Planning, Housing, and Economic Development Committee (PHED) holds open worksessions to review the testimony and revise the Planning Board (Final) Draft Plan. The County Council, after its worksessions, then adopts a resolution approving the Planning Board (Final) Draft Plan, as revised.

Adopted Plan - The Plan approved by the County Council is forwarded to The Maryland-National Capital Park and Planning Commission for adoption. Once adopted by the Commission, the Plan officially amends the various master or sector plans cited in the Commission's adoption resolution.

Montgomery County Master Plan Development Process

Planning Board submits, and Council approves:

Annual Work Program

Planning staff initiates community participation and prepares:

Issues Report

Planning staff reviews Issues Report with Planning Board,
and then prepares:

Staff Draft Plan

Planning Board reviews Staff Draft, and, with modification as
necessary, approves plan as suitable for public hearing.

Public Hearing (Preliminary) Draft Plan

Planning Board reviews public hearing testimony,
receives Executive comments at Board worksessions,
and adjusts Public Hearing Draft to become:

Planning Board (Final) Draft Plan

Executive reviews Planning Board Draft and forwards fiscal
impact analysis and comments to County Council.

Planning Board (Final) Draft Plan Transmitted to County Council

Council holds public hearing and worksessions and approves,
disapproves, or amends Planning Board Draft,
which is forwarded to M-NCPPC to become:

Approved and Adopted Master Plan

NOTICE TO READERS

An area master plan, after approval by the County Council and adoption by the Maryland-National Capital Park and Planning Commission, constitutes an amendment to the General Plan for Montgomery County. As such, it provides a set of comprehensive recommendations and guidelines for the use of publicly and privately owned land within its planning area. Each area plan reflects a vision of future development that responds to the unique character of the local community within the context of a County-wide perspective.

Area master plans are intended to provide a benchmark point of reference with regard to public policy. Together with relevant County-wide functional master plans, they should be referred to by public officials and private individuals when decisions are made that affect the use of land within the plan's boundaries. It should be noted that master plan recommendations and guidelines are not intended to be specifically binding on subsequent actions, except in certain instances where an ordinance or regulation requires a specifically defined linkage to be established. The precise timing and character of public facility projects is determined annually through the Capital Improvements Program and the Operating Budget.

Master plans generally look ahead to a time horizon of about 20 years from the date of adoption, although it is intended that they be updated and revised about every ten years. It is recognized that the original circumstances at the time of plan adoption will change over time, and that the specifics of a master plan may become less relevant as time goes on. Any sketches or site plans in an adopted plan are for illustrative purposes only, and are intended to convey a general sense of desirable future character rather than any specific commitment to a particular detailed design.

STAGING AMENDMENT TO THE NORTH BETHESDA-GARRETT PARK MASTER PLAN

On November 9, 1992, Montgomery County Council approved the Final Draft North Bethesda-Garrett Park Master Plan, dated March 1992, with revisions.

The Master Plan recommended greater development at transit accessible locations. North Bethesda is uniquely served by mass transit, with three Metro stations at Twinbrook, White Flint, and Grosvenor, and a MARC commuter rail line stop at Garrett Park. The land use, urban design, and transportation elements of the Plan all emphasized increasing transit ridership. Significant roadway improvements were also recommended to provide for a balanced transportation system.

One of the County Council revisions to the Final Draft Master Plan was to add the following section:

"A staging amendment will be prepared which will determine the priority and sequence of the development and the transportation elements in this plan. For each stage, a level of development will be linked to the implementation of a set of transportation projects, programs, and policies. Prior to action on the staging amendment, the projects, programs, and policies—and the assumptions behind them—will be evaluated as to: (1) effectiveness in providing capacity and increasing the non-auto-driver mode share; (2) cost; and (3) likelihood of implementation."

The Public Hearing (Preliminary) Draft Staging Amendment, prepared in consultation with a Citizens Advisory Committee, attempts to address the County Council's instructions. The issue of cost will be addressed by the County Executive in a supplemental implementation report and comments regarding plan recommendations.

STAGING AMENDMENT TO THE NORTH BETHESDA-GARRETT PARK MASTER PLAN

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John G. Tyner II, Twinbrook Citizens Association

The listing of the names of members of the Advisory Committee does not indicate approval or disapproval of this document by any committee member. The Advisory Committee does not take a position or vote as a body. The members advise the Montgomery County Planning Board regarding the problems, needs and views of the groups or areas they represent. These views are then considered by the Planning Board in its deliberations regarding the Master Plan.

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NORTH BETHESDA-GARRETT PARK MASTER PLAN PUBLIC HEARING (PRELIMINARY) DRAFT STAGING AMENDMENT

A. Introduction

This Staging Amendment to the 1992 Approved and Adopted Master Plan for North Bethesda-Garrett Park explains the relationship between the Master Plan and the Annual Growth Policy. The Amendment outlines key principles and staging guidelines followed by recommendations for three stages of development (Stage I—Short Term, Stage II—Mid Term, and Stage III—Long-Term).

The most detailed recommendations pertain to Stage I, the current status for the area. The Amendment proposes new business district streets, bikeways and pedestrian improvements to improve local circulation by all forms of transportation. Improvements to reduce delays at critical intersections are also proposed. The Staging Plan outlines projects to be funded by the Capital Improvements Program and streets and bikeways to be dedicated through the process of subdivision. Transportation demand management policies and programs to reduce reliance on the single occupant vehicle are proposed together with guidelines for transit oriented development. A transportation analysis is included as an Appendix.

B. Background

The North Bethesda-Garrett Park Master Plan adopted in October 1992 addresses the "end state" of development. In theory, this is the point at which land will be built out to the limits allowed by the Plan's zoning recommendations and all planned transportation improvements will be available. However, all capital facilities and programs required to support the end state development are not provided simultaneously. To account for this, the amount of development that can be accommodated by existing and programmed public facilities in any given year is established through the Annual Growth Policy ("AGP").

The Staging Amendment guides future AGP decisions in several ways. First, the Amendment identifies priority public improvements required to support anticipated development. Second, the Amendment establishes transportation management goals needed to maintain a balance between future development levels and transportation system capacity. Third, the Amendment refines desired policies and objectives for future development. However, the Plan defers to the AGP regarding when and how much additional growth can be accommodated beyond Stage I.

C. The Effect of the FY 94 AGP

A policy area transportation review for the entire North Bethesda Planning Area was conducted as part of the Fiscal Year 1994 AGP. The resolution adopting the FY 94 AGP established the following:

- o Programmed road improvements in the area (principally the widening of the I-270 spurs), result in capacity for 4,500 additional jobs and 4,350 additional housing units with the assignment of 2,529 of those jobs and 394 of the housing units temporarily deferred pending resolution of funding issues regarding the I-270 West spur.
- o Metro station policy areas are created for the Grosvenor, Twinbrook and White Flint Sector Plan areas. Peak hour levels of service exceeding critical lane volumes of 1,800 are deemed unacceptable for Local Area Transportation Review within these areas.
- o Applicants for subdivision in the Metro Station Policy Areas have an option to be reviewed under an alternative transportation review process. An applicant for a subdivision to be built completely within the Grosvenor, White Flint, or Twinbrook Metro station policy areas, and who selects the alternative process, must agree in a contract with the Planning Board and the Montgomery County Department of Transportation to:
 - 1. Make its best efforts to meet mode share goals established by the Planning Board as a condition of approving that subdivision;
 - 2. Participate in programs operated by, and take actions specified by, a transportation management organization (TMO) to be established by County law for that policy area (or a group of policy areas including that policy area) in order to meet the mode share goals established by the Planning Board;
 - 3. Pay an ongoing annual contribution or tax to fund the TMO's operating and capital expenses; and
 - 4. Pay a development approval payment (DAP), to be established by County law, over a multi-year period starting when the building permit is issued and indexed to reflect inflation in construction costs.

The Planning Board must conduct a comprehensive Local Area Transportation Review for each policy area in which it approves a subdivision under this procedure and must specify for inclusion in the Capital Improvements Program any transportation improvements needed to support that subdivision. This document serves as the comprehensive Local Area Transportation Review called for in the FY 94 Annual Growth Policy.

D. Key Principles

While seeking a balance between new development and a transportation system to support it, the staging amendment is guided by the following key principles:

1. The need to balance master-planned growth with the fiscal constraints of federal, state, and local funding sources.
2. The desire to facilitate development near Metrorail stations and at major activity centers best served by transportation infrastructure.
3. The desire to facilitate the location of large employers in close proximity to the White Flint or Twinbrook Metrorail stations where the zoning or proposed zoning is appropriate.
4. The need to facilitate additional housing opportunities, affordable housing, community facilities and amenities and high-quality mixed-use projects.
5. The need to facilitate the use of bikeways, sidewalks and transit.

E. Staging Guidelines

Staging seeks to balance the timing of new development and the provision of transportation system capacity. Stage I indicates the improvements necessary for adequate circulation based on the FY 94 development ceilings. The following guidelines form the basis for the recommendations of the Staging Amendment.

AGP-RELATED GUIDELINES

1. Rely on the AGP to determine the timing and amount of new development, considering Staging Amendment guidance.

The AGP provides guidance from a county-wide perspective and the Staging Amendment provides guidance from a local area perspective.

2. Give priority in allocating ceiling capacity to geographic areas in proximity to existing and planned transit centers.
3. Give priority in allocating ceiling capacity to areas with potential to provide housing opportunities, affordable housing, or community facilities.

FACILITIES-RELATED GUIDELINES

4. Program transportation facilities that give priority to non-auto drivers, such as transit riders, bicyclists, and pedestrians.

The North Bethesda-Garrett Park Master Plan emphasizes non-auto driver modes of travel for commuting. Therefore, improvements to transit, bikeways and sidewalks are emphasized in the recommended facilities for each stage.

5. For Stage I, program improvements to congested intersections. Use a Critical Lane Volume standard of 1,800 within Sector Plan areas when identifying these improvements. In this and subsequent stages, exempt intersections from improvement if the Montgomery County Council concludes that the effect of improvements on the surrounding community are unduly disruptive.

The Staging Amendment recognizes that it may be better to accept some continued congestion rather than provide improvements which would negatively affect adjacent communities. This analysis indicates increased intersection congestion at several locations will occur in the future unless improvements are made even if non-auto driver mode shares are increased significantly.

6. Allow subdivision process to obtain required right-of-way by way of dedication.

PROGRAM-RELATED GUIDELINES

7. Require the creation of a Transportation Management Organization as a precursor to Stage II.

The Staging Amendment recommends managing transportation demand to accommodate future development and to control congestion. The Amendment endorses effective transportation measures to balance congestion and growth. Transportation Management Organization (TMO) is a general term encompassing Districts as well as other possible entities. TMO's are essential prerequisites to effective transportation management programs.

8. Maintain a policy that constrains the amount of long-term parking available to employees in the Master Plan area.

The policy supports provision of a portion of the parking needed for employees, but avoids an excessive parking supply that might encourage single-occupant auto use.

9. Establish a non-auto driver mode-share goal of 20%, or 50% more than present, to be achieved during Stage I as a precursor to Stage II.

The Silver Spring CBD experience illustrates how a comprehensive program with adequate staff and regulatory support should allow North Bethesda to increase from the present estimated 15 percent to a 20 percent non-auto driver mode share for employees during Stage I development.

10. Accept the Staging Amendment Stage I traffic analysis as the local area transportation review for new development.

An area-wide local area transportation review (LATR) was conducted for the entire North Bethesda area and an individual LATR should therefore not be required at the time of development review.

Table 1

STAGING OF MASTER PLAN DEVELOPMENT

STAGE	POLICIES AND PROGRAMS	RECOMMENDED TRANSPORTATION FACILITIES EACH STAGE
STAGE I (SHORT-TERM)	<p>BEGAN WITH:</p> <ol style="list-style-type: none"> Adoption of FY 94 AGP, with staging ceilings of 4,500 jobs and 4,350 dwelling units as of July 1, 1993. 2,529 of those jobs and 394 of those dwelling units have been deferred pending resolution of funding issues regarding the I-270 West Spur. <p>POLICIES AND PROGRAMS</p> <ol style="list-style-type: none"> CLV standards within Sector Plan Areas amended to 1,800 (FY 94 AGP); Applicants for subdivision in Metro Station Policy Areas can apply for an alternative transportation review process and make a development approval payment (DAP) to be set by County law when building permit is issued (FY 94 AGP); A Transportation Management Organization is established (FY 94 AGP); All new applicants for subdivision must participate in programs sponsored by, or take actions sanctioned by, the TMO to meet mode share goals. The TMO will receive an ongoing annual payment from participants (only Metro station applicants in FY 94 AGP); Increase non-auto driver mode share for employees by 5 percent (now estimated at 15 percent); 	<p>PROVIDE IN STAGE I (SHORT TERM)</p> <ol style="list-style-type: none"> STREETS (Acquired through dedication at time of subdivision) <ul style="list-style-type: none"> Chapman Avenue - Nicholson Lane to Old Georgetown Road (70' ROW) Woodglen Drive extended - Nicholson Lane to Marinelli Road (80' ROW) B-11 - Marinelli Road to Old Georgetown (70' ROW) White Flint Avenue (B-10) - Nebel Street to B-11 (80' ROW). B-11 to Rockville Pike (35' ROW - bike and walk only) Executive Boulevard - Woodglen Drive to Huff Court (80' ROW) BIKEWAYS <ul style="list-style-type: none"> Chapman Avenue - Nicholson Lane to Old Georgetown Road - Class III Woodglen Drive extended - Nicholson Lane to Marinelli Road - Class I B-10 - Nebel Street to Rockville Pike - Class I Rockville Pike - Strathmore Avenue to Old Georgetown Road - Class I Marinelli Road - Nebel Street to Executive Boulevard - Class II Strathmore Avenue - Weymouth Street to Rockville Pike - Class II Twinbrook Parkway - Veirs Mill Road to Rockville City limits - Class II

STAGE	POLICIES AND PROGRAMS	RECOMMENDED TRANSPORTATION FACILITIES EACH STAGE
STAGE I (SHORT-TERM)	6. Initiate a parking policy of constrained long-term parking, including the elimination of free on-street parking, and mandatory participation in the share-ride district for all new development.	<p>Aspen Hill Connector - Rock Creek Trail to Besley Court</p> <p>3. IMPROVED PEDESTRIAN & BICYCLE CROSSINGS</p> <p>Rockville Pike and: Marinelli Road, Nicholson Lane, Old Georgetown Road, Tuckerman Lane</p> <p>Twinbrook Parkway and: Parklawn Drive, Fisher's Lane, Ardennes Avenue</p> <p>Old Georgetown Road and: Democracy Boulevard, Rock Spring Drive, Tuckerman Lane</p> <p>Montrose Road and East Jefferson</p> <p>4. INTERSECTION IMPROVEMENTS (Funded through DAP and CIP)</p> <p>Rockville Pike and: Nicholson Lane, Twinbrook Parkway, Randolph Road</p> <p>Old Georgetown Road and Tuckerman Lane</p> <p>Montrose Road and Jefferson Street</p> <p>Randolph Road and Rocking Horse Road</p>
STAGE II (MID-TERM)	<p>BEGIN WHEN:</p> <p>1. The area-wide transportation level of service is within the AGP standard, demonstrating that staging ceilings can be increased, and new staging ceilings have been approved through the AGP. The most likely way of doing this is by programming a significant transportation improvement that affects the area-wide average level of service, such as:</p> <p>-One or both direct access ramps to Rock Spring Park from I-270, or</p>	<p>PROVIDE IN STAGE II (MID TERM)</p> <p>Of the balance of the transportation facilities identified in the Master Plan, the following are of highest priority:</p> <p>1. ROADWAYS</p> <p>Direct access ramps from I-270 to Rock Spring Park Montrose Parkway Nebel Street Extended</p> <p>2. BIKEWAYS</p> <p>Montrose Parkway Montgomery Mall to Old Georgetown Road Democracy Boulevard to Lux Lane</p>

STAGE	POLICIES AND PROGRAMS	RECOMMENDED TRANSPORTATION FACILITIES EACH STAGE
STAGE II (MID-TERM)	<ul style="list-style-type: none"> -The Montrose Parkway, or -A high quality transit connection from Montgomery Mall to Grosvenor Metro Station 	<p>3. IMPROVED PEDESTRIAN & BICYCLE CROSSINGS To be determined as part of Comprehensive Local Area Transportation Review</p>
	<ul style="list-style-type: none"> 2. The intersection improvements identified in the Stage I are programmed in the first four years of the CIP or CTP. 3. The TMO is in operation. 4. Substantial progress has been made towards meeting the mode share goal adopted in Stage I. 5. An updated comprehensive local area transportation review (CLATR) has been prepared. <p>POLICIES AND PROGRAMS</p> <ul style="list-style-type: none"> 1. Increase the effectiveness of transportation demand management programs and the TMO. 2. Mandate a phased-in TMO participation for all employers. 3. Maintain a policy of constrained long-term parking. 4. Increase non-auto driver mode share goal in appropriate increments. 5. Link the location of increased staging ceiling capacity with location of increased transportation capacity, to the extent possible. 	<p>4. INTERSECTION IMPROVEMENTS To be determined as part of Comprehensive Local Area Transportation Review</p>

STAGE	POLICIES AND PROGRAMS	RECOMMENDED TRANSPORTATION FACILITIES EACH STAGE
STAGE III (LONG-TERM)	<p>BEGIN WHEN:</p> <ol style="list-style-type: none"> 1. A North Bethesda Master Plan Amendment will be prepared in approximately 10 to 15 years. At that time, a new comprehensive transportation study will be prepared to determine how transportation capacity conditions meet AGP standards. 2. Following adoption of the future Master Plan Amendment, a new AGP ceiling capacity can be established. <p>POLICIES AND PROGRAMS</p> <p>New policies and programs will be determined as part of the Master Plan Amendment and in the context of the AGP policies at that time.</p>	<p>PROVIDE IN STAGE III (LONG TERM)</p> <p>The facilities required during Stage III will be defined as a result of the new comprehensive transportation analysis prepared as part of the Master Plan Amendment. Analysis for the Master Plan indicates that the high traffic volumes and congestion are possible at Master Plan build-out. Possible improvements to meet congestion standards include:</p> <ol style="list-style-type: none"> 1. Increased transit service. 2. Additional improvements to the bikeway and pedestrian network. 3. Additional intersection and roadway improvements.

FIGURE 1



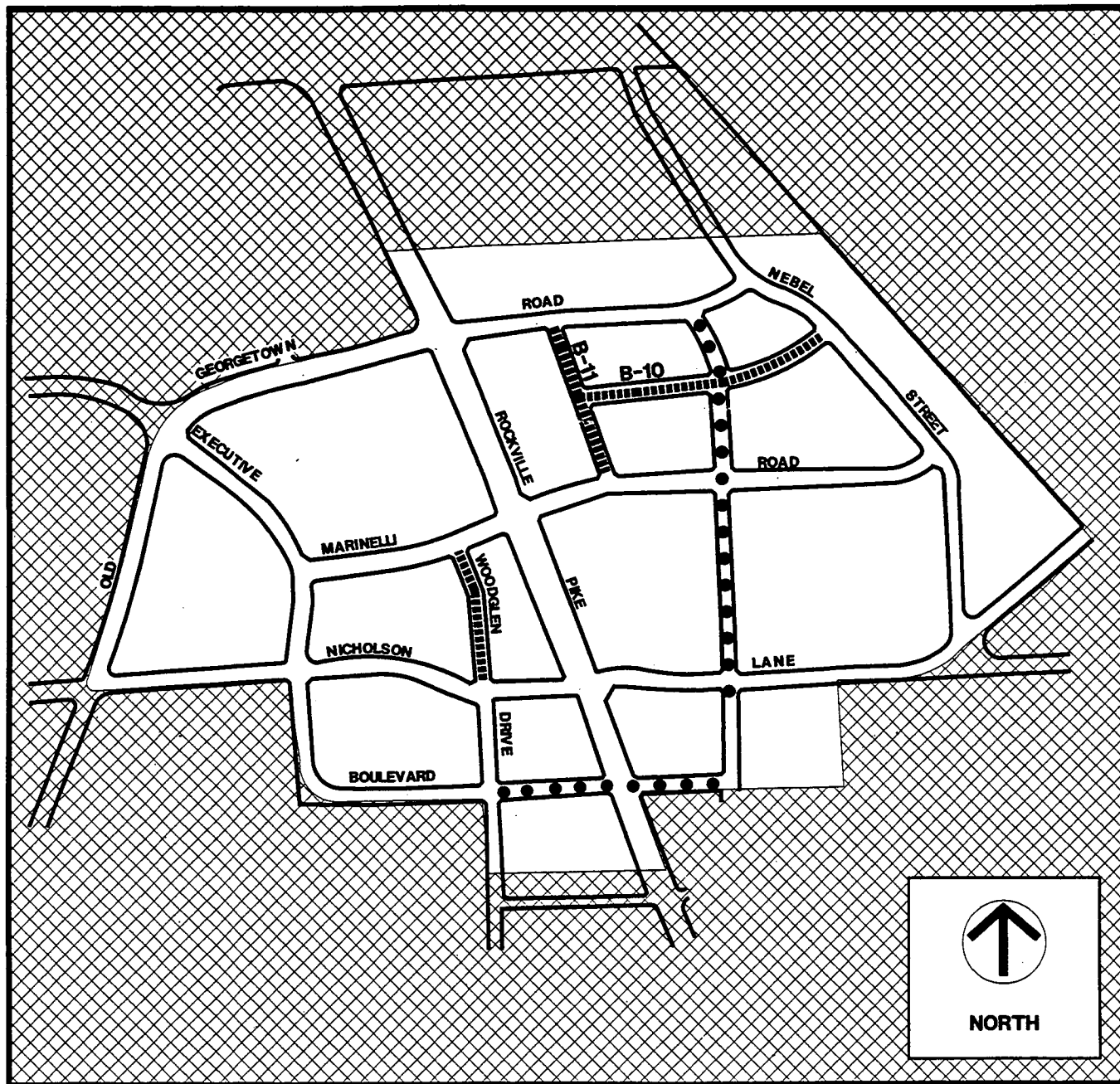
STAGE I PROPOSED STREETS

(SEE WHITE FLINT GRAPHIC FOR DETAILS)

Staging Amendment to the 1992 Master Plan
North Bethesda - Garrett Park
Planning Area




 The Maryland National Capital Park and Planning Commission

FIGURE 2



WHITE FLINT SECTOR PLAN AREA

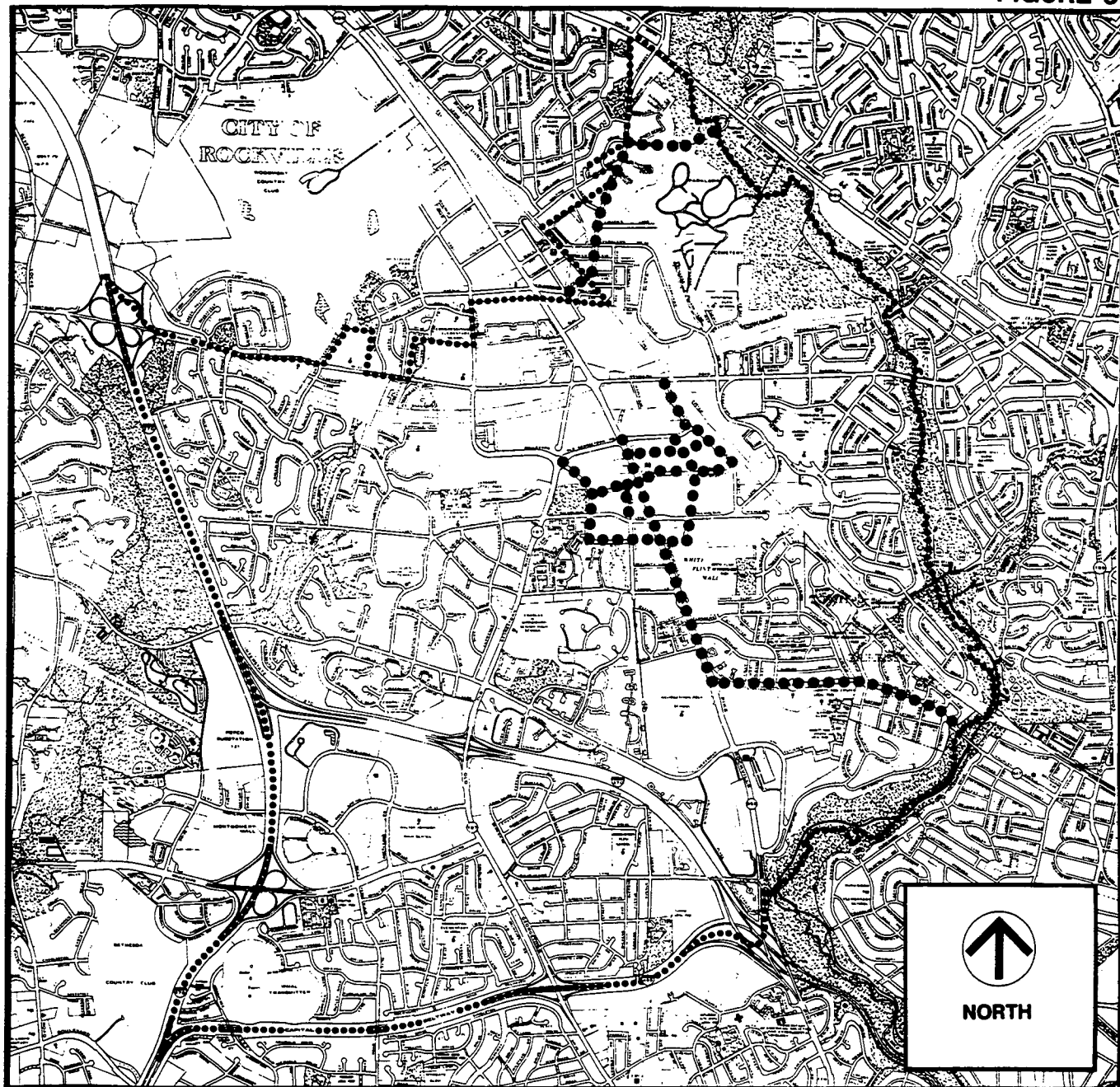
STAGE I PROPOSED STREET SYSTEM

-  Existing
-  Master Planned
-  Proposed in Staging Amendment

Staging Amendment to the 1992 Master Plan
North Bethesda — Garrett Park
Planning Area

 The Maryland National Capital Park and Planning Commission

FIGURE 3

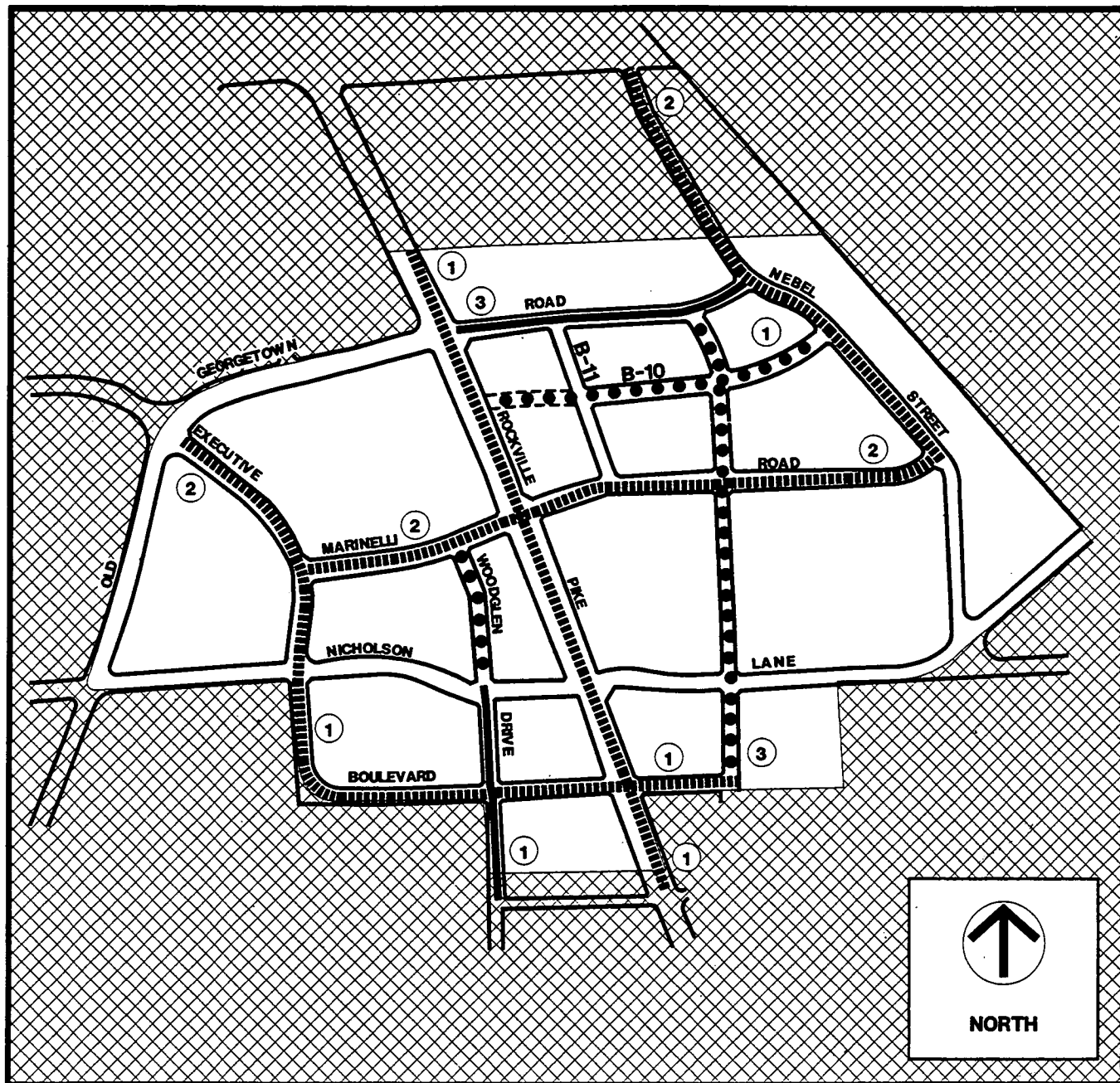


STAGE I PROPOSED BIKEWAYS

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FIGURE 4



WHITE FLINT SECTOR PLAN AREA

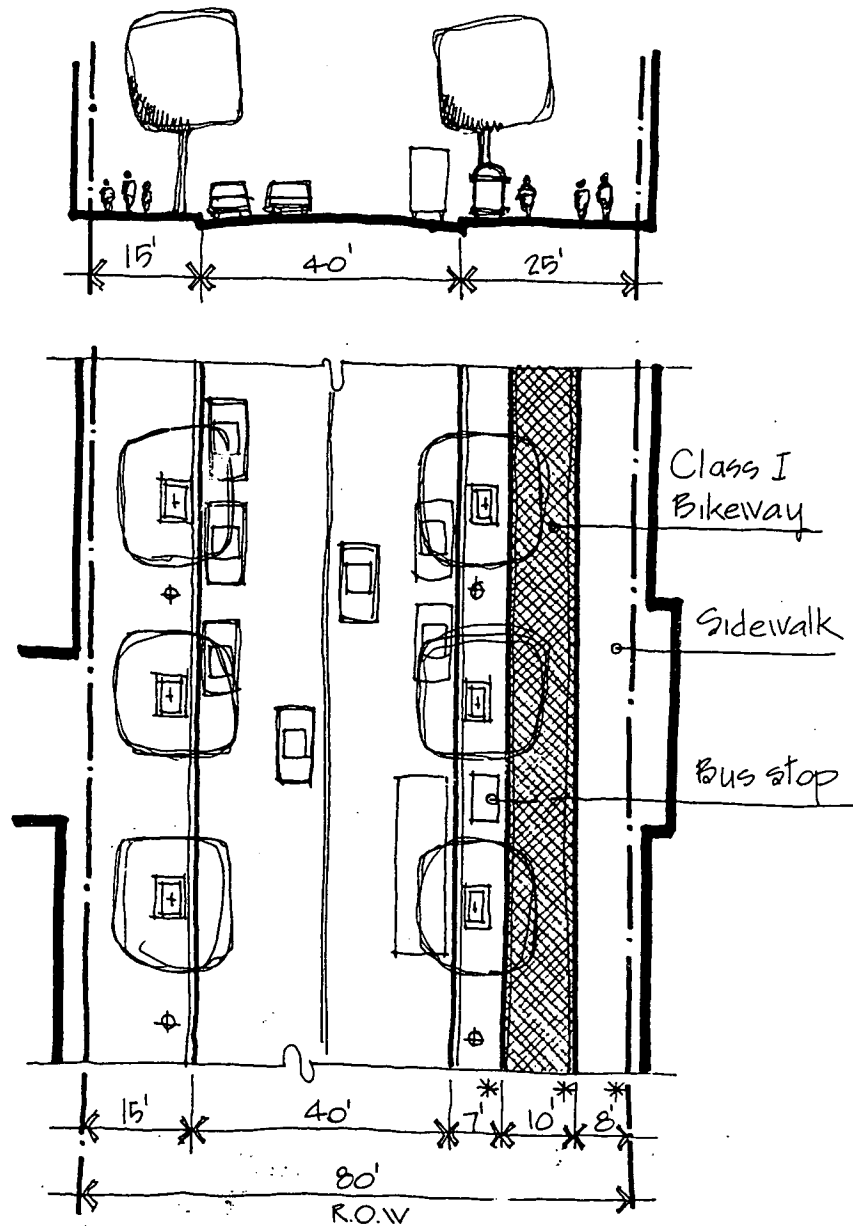
STAGE I PROPOSED BIKEWAY SYSTEM

	Existing		Class I A Bikeway on a Separate Right-of-Way or Easement
	Master Planned		Class II A Bike Lane on a Roadway Designated by Striped Pavement or a Physical Barrier
	Proposed		Class III A Bike Route on a Roadway Designated by Sign Only

Staging Amendment to the 1992 Master Plan
North Bethesda — Garrett Park
Planning Area

The Maryland National Capital Park and Planning Commission

FIGURE 5



Recommended Business Street with Class I Bikeway - 80' R.O.W.

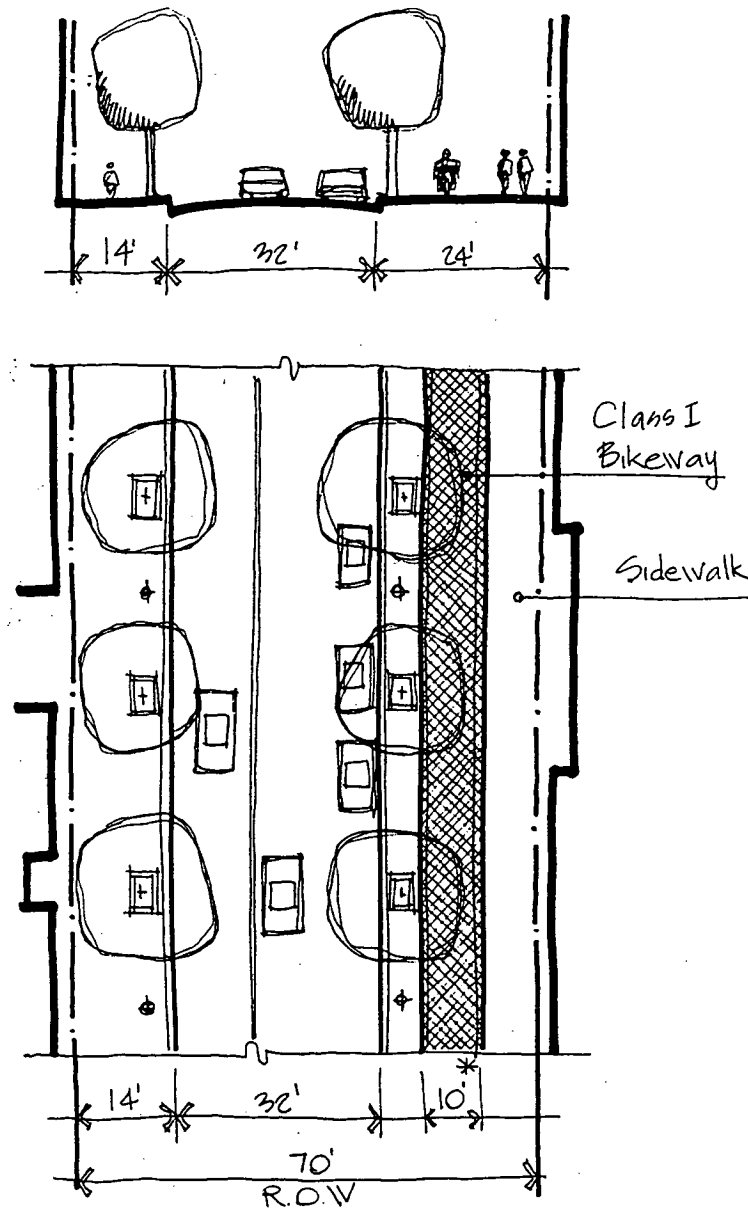
Development standards are subject to final approval by MCDOT or

* Desirable dimensions

Staging Amendment to the 1992 Master Plan
North Bethesda - Garrett Park
Planning Area

 The Maryland National Capital Park and Planning Commission

FIGURE 6



Recommended Reduced Width Business Street with Class I Bikeway - 70' R.O.W.

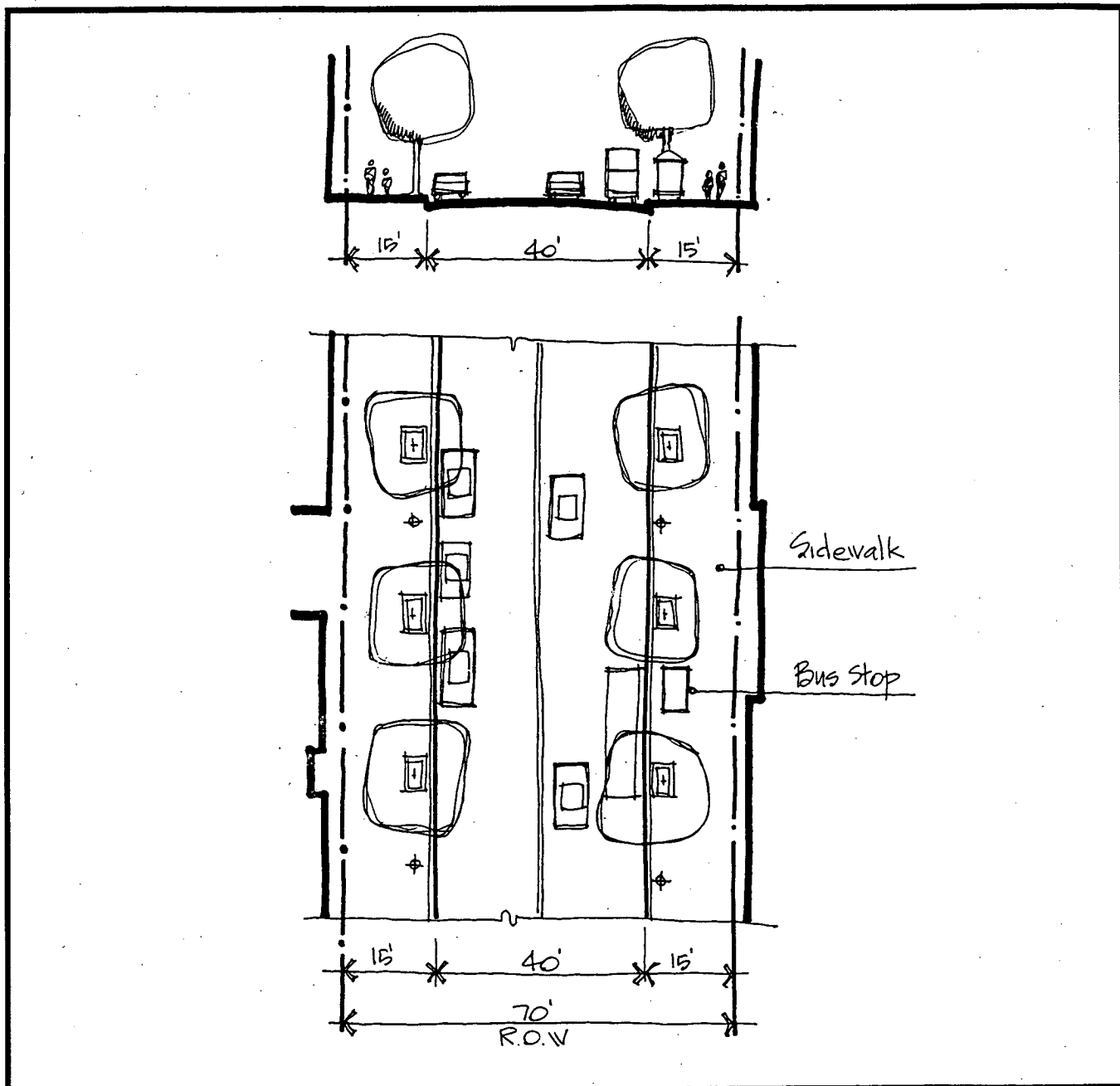
Development standards are subject to final approval by MCDOT or

* Desirable dimensions

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North Bethesda - Garrett Park
Planning Area

 The Maryland National Capital Park and Planning Commission

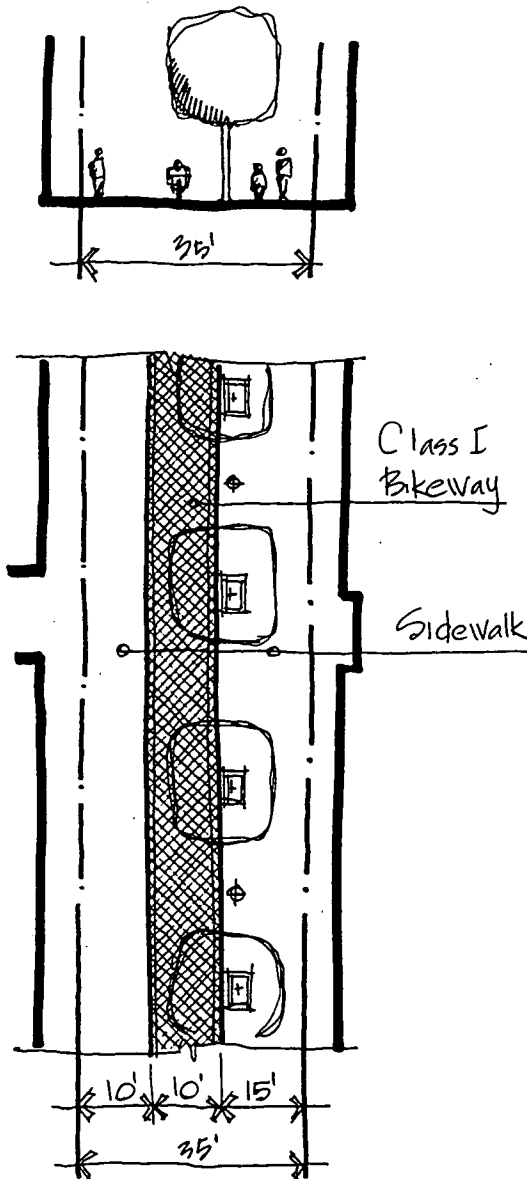
FIGURE 7



Recommended Business Street - 70' R.O.W.

Development standards are subject to final approval by the MCDOT or

FIGURE 8



Recommended Pedestrian / Bicycle Street or Easement

Staging Amendment to the 1992 Master Plan
North Bethesda — Garrett Park
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F. Stage I (Short-Term)

Staging Amendment recommendations for each stage are summarized in Table 1. Stage I began with the FY 94 AGP allocation of additional jobs and housing units to the staging ceilings in the North Bethesda policy areas. It includes the development pipeline together with the additional development already approved by the County Council as part of the Annual Growth Policy.

This Staging Amendment recommends specific policies, programs and facilities for North Bethesda during Stage I, including the following:

PARKING POLICY

Initiate a policy that constrains long-term parking available to employees in North Bethesda. Pursue opportunities to eliminate free on-street parking, including installation of parking meters with revenues to be allocated to a Transportation Management Organization.

MODE SHARE

Increase peak hour non-auto driver mode share for employees from the current estimated 15 percent to 20 percent in Stage I, reflecting an increase of 5 percent.

STREET SYSTEM

Acquire primarily through dedication at time of subdivision the following streets (see Figures 1 and 2):

- a. Chapman Avenue, from Nicholson Lane to Old Georgetown Road (70' ROW)
- b. Woodglen Drive Extended, from Nicholson Lane to Marinelli Road (80' ROW). May be reduced to 70' if approved as part of the Road Code (see Figures 4 and 5).
- c. B-11, from Marinelli Road to Old Georgetown Road (70' ROW) (Figure 6)
- d. White Flint Avenue (B-10), from Nebel Street to B-11 (80' ROW).
- e. Executive Boulevard, from Woodglen Drive to Huff Court.

Note: The streets outlined in b, c, and d are additional streets to those already included in the 1992 Master Plan. They happen to fall within the boundaries of the White Flint Sector Plan Area because the largest tracts of undeveloped land occur there.

BIKEWAY AND PEDESTRIAN SYSTEM

Acquire through dedication at time of subdivision the following critical portion of the bicycle and pedestrian network to provide a conducive environment for non-auto use. (see Figure 4) The priorities for new bicycle and pedestrian routes are:

- a. Chapman Avenue, from Huff Court to Old Georgetown Road (Class III)
- b. Woodglen Drive Extended, from Nicholson Lane to Marinelli Road (Class I)
- c. Bicycle network route B-10, from Nebel Street to Rockville Pike (Class I)
- d. Executive Boulevard, from Woodglen Drive to Huff Court (Class I)

Include in the CIP the following portions of the bicycle and pedestrian network (see Figure 3):

- a. Rockville Pike, from Strathmore Avenue to Old Georgetown Road (Class I)
- b. Marinelli Road, from Nebel Street to Executive Boulevard (Class II)
- c. Twinbrook Parkway, from Veirs Mill Road to Rockville City Limits (Class II)
- d. Aspen Hill connector, from Rock Creek Trail to Besley Court (Class I)
- e. Strathmore Avenue, from Rockville Pike to Rock Creek Park (Class II)

Include in the CIP wide, clearly demarcated pedestrian crossings at intersections listed in Table 1 by using special paving treatment, such as pavers or colored asphalt and, wherever feasible, median islands for pedestrian refuge. Include wide sidewalks screened by street trees in the design of all new streets (see Figures 5-8).

INTERSECTION IMPROVEMENTS

In order to estimate the level of service at intersections coincident with Stage I development within North Bethesda and with the FY 94 staging ceilings outside of North Bethesda, a comprehensive local area transportation review has been conducted. Based on this study, critical intersections and potential operational and capacity improvements that will improve their levels of service have been identified.

Table 2 presents recommended intersection improvements for Stage I (see Figure 9). A complete listing of improvements reviewed, with CLV estimates, can be found in the Appendix.

Not all of the recommended improvements, if implemented, will bring intersections within the 1,525 standard outside of Metro areas. At a minimum, however, they will mitigate the impact of the development approved in Stage I. Additional improvements would be detrimental to adjacent land uses and prohibitively expensive. It should be noted that the transportation system improvements to be provided by IBM as a result of expansion under the provisions of the loophole legislation (Chapter 8, Article IV and Chapter 42A-9A) are not addressed in this staging amendment. These proposed improvements are located on Old Georgetown Road between Cheshire Drive and I-270, including the intersections with Democracy

Table 2

RECOMMENDED STAGE I CIP INTERSECTION PROJECTS

INTERSECTION	RECOMMENDED	COMMENT
Rockville Pike & Nicholson Lane	Prohibit NB & SB Left Turns	NB left uses Security and Woodglen SB left uses Marinelli and Nebel. A short-term solution.
Rockville Pike & Twinbrook Parkway	Add Right to all approaches Add EB Through Add WB Through	An effective CLV solution; however, ROW constraints costly to overcome. Also, this intersection falls within Rockville's city limits.
Old Georgetown Rd & Tuckerman Lane	Add NB left turn lane	Some ROW Acquisition necessary; Sixth lane poses potential negative community impact.
Montrose Road & Jefferson Street	Add NB through lane Add SB right lane Add EB through lane	Some ROW constraints; Construction of Montrose Parkway will provide substantial relief to this intersection.
Rockville Pike & Randolph Road	Add 2 EB through lanes	Some ROW constraints; Construction of Montrose Parkway will provide substantial relief to this intersection.
Randolph Road & Rocking Horse Road	Add NB right lane	Rocking Horse is classified as a primary residential street. Community impact may be unacceptable
Rockville Pike & Tuckerman Lane Rockville Pike & Grosvenor Lane	CLV meets new Metro Station Policy Area standard adopted in FY 94 AGP for both intersections. No additional lanes recommended	

FIGURE 9



STAGE I INTERSECTION IMPROVEMENTS



Intersection Improvements



Pedestrian / Bicycle Crossing Improvements

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Table 3

**NORTH BETHESDA-GARRETT PARK PLANNING AREA
PROPOSED REVISIONS TO MASTER PLAN OF HIGHWAYS**

Streets to be added:

	NAME	LIMITS	LANES	ROW
Industrial & Business Streets				
B-3	Woodglen Drive	B-10 to Nicholson Lane	4	80 ft
B-10	White Flint Avenue	Nebel Street to B-11	4	80 ft
		B-11 to Woodglen Drive	pedestrian only	35 ft
		Woodglen Drive to Executive Boulevard	4	80 ft
B-11	New Street	Marinelli Road to Old Georgetown Road	4	70 ft
B-12	New Street	B-10 to Old Georgetown Road	4	80 ft

Boulevard and Rock Spring Drive. Montgomery County Department of Transportation and the State Highway Administration are currently working on design details to be presented to property owners and local citizens associations prior to submission as a mandatory referral to the Planning Board.

The County Council may determine that some of the recommended improvements in Stage I should be deferred because of fiscal constraints, the possibility of undue disruptions to neighboring communities, or because master-planned, yet unprogrammed improvements would eventually provide a superior, long-term solution.

The Master Plan demonstrated that traffic conditions within the policy area are sensitive to levels of development that occur outside. Because the pipeline of approved but unbuilt development is unlikely to be constructed within a ten-year time period, which is longer than the expected life of the first stage of this plan, some discounting of the pipeline in the intersection analysis would seem appropriate. Future analyses would account for expected development within and outside the area based on information available at the time.

Staff estimated the impact on the intersections of the initial stage of North Bethesda development with both 50 and 100 percent of the pipeline outside the Metrorail station areas. The impact of the lower pipeline is to reduce the CLV of the intersection studies by 5 to 10 percent. This was not enough to change any of the recommendations.

TRANSPORTATION DEMAND MANAGEMENT

As part of the Comprehensive Local Area Transportation Review for North Bethesda, staff analyzed the likely effects of a Silver Spring-style TMD for trip reduction potential. This is consistent with the County Council's desire to evaluate the ..." (1) effectiveness [of projects, programs and policies] in providing capacity and increasing the non-auto driver mode share; (2) cost and (3) likelihood of implementation."

"Likelihood of Implementation" has already been addressed with the Council's establishment of Metrorail station policy areas in North Bethesda and the accompanying requirement of a Transportation Management Organization. Although requiring enabling legislation, the FY 94 AGP indicated that a TMO would be an integral part of the transportation plan for each station area. The actions recommended in this Staging Plan are those normally associated with effective demand management, and almost all have been used in the Silver Spring CBD. Their effectiveness was evaluated using a model developed by a consultant and applied in locations around the country for similar analyses. It is based on data from demand management programs nationally, with judgments based on local experience. Although the analysis assumes a specific set of actions, many sets could accomplish the same goal.

The question of cost is not addressed in this document as it is under study by the North Bethesda Task Force at this time and will eventually be evaluated by the Office of Planning Implementation.

The process used to estimate trip reduction potential requires specific assumptions regarding the degree of employer participation and design of the program. The results of the analysis indicate that a reduction of five percent in work-to-home vehicle trips in the PM peak hour is probable under the following program:

- o The TDM program is mandatory for all new employment beginning with Stage I and voluntary for all existing employers.
- o There is a carpool matching service, an information service, preferential parking for carpools, a policy of flexible work schedules to accommodate carpools.
- o There is a vanpool matching service, non-monetary vanpool development and a policy of flexible work schedules.
- o There is a transit information center, a policy of work hours flexibility, and on-site bus pass sales.
- o Parking policies remain essentially unchanged, i.e., there are no additional parking charges imposed upon commuters in the North Bethesda Planning Area.
- o A small number of employees (less than 3 percent of the total number of employees) participate in flex-time, staggered hours, compressed work-week, and telecommuting programs.
- o An on-site transportation coordinator is available at least half-time to distribute information, fare passes and to facilitate transit, car pool and vanpool services.

A reduction of 5 percent in the number of peak hour work trips is a relatively modest result when compared with the achievements of the Silver Spring TMD and employer-based programs such as the Nuclear Regulatory Commission's transportation demand management program. The latter differ in one important respect, however - parking is constrained and is not subsidized to the same extent as is generally the case in the North Bethesda Planning Area, where most employees do not pay for parking. Silver Spring is also different in other ways. It is more accessible to a greater proportion of the region's households and jobs by transit, due to its location and the higher level of transit service. Also, its land use pattern and transportation network more readily lend themselves to walking and biking than does that of North Bethesda.

A second scenario was tested, identical to the first, with the exception that a \$1.00 parking charge would be ubiquitous, and additional bus service would be provided. This analysis indicated that an 8 - 10 percent reduction in vehicle trips could be achieved. This result is consistent with findings elsewhere which point to the primacy of cost and time in influencing commuting behavior.

The results of the analysis described above (without parking charges) were factored in to the intersection analysis described above for Stage I.

TRANSPORTATION MANAGEMENT ORGANIZATION

- o This Staging Plan recommends that any Transportation Management Organization ("TMO") established for North Bethesda include the following components:
- o Composition: Both the public and private sector should be represented in the TMO. Residents of North Bethesda should also be encouraged to serve in an advisory capacity. Since the public sector has an abiding interest in, and ultimate responsibility for, the success of the TMO, it should reserve the right to a major role in formulating policy and programs for the TMO.
- o Focus: The TMO should consider the unique features and needs of the various sub-areas within North Bethesda.
- o Funding: Funding should be derived from mandatory participation in the TMO, the Share-Ride District, Development Approval Payments (DAP), and direct contributions from County government. The Office of Planning Implementation should be directed to estimate the costs of TMO implementation in North Bethesda and further refine the funding sources and formulas.
- o Services Provided: The TMO should provide ride-matching services, support for vanpools, transit subsidies and promotional services, consistent with the program tested in the TDM analysis carried out by the Planning staff.
- o Data Collection: The TMO should be responsible for collecting intersection data and conducting area-wide employer-based surveys on a regular basis.
- o Membership: Membership in the TMO should be mandatory for all new development during Stage I and voluntary for all existing employers. New development should meet prescribed trip reduction goals. Existing transportation demand management programs would be allowed the option of continuing their operations, or merging with the TMO.
- o Trip Reduction Goals: A five percent increase in non-SOV mode share is recommended for the entire Master Plan area at the work end (for North Bethesda workers). There are two principal reasons for this recommendation. First, the results of the TMD analysis described above indicate that this is a reasonable goal given TMO programs and policies styled after the Silver Spring Transportation Management District (TMD). Second, the achievement of a five percent increase in the non-SOV mode share (from 15 percent to 20 percent) will constitute reasonable progress toward the Master Plan estimate of an "end state" 39% non-SOV mode share. Observed modal share information, for the work end, last collected in 1987, will be updated once data from the 1990 Census is made available. The County should regularly monitor the TMO's ef-

fectiveness and direct the TMO to change the programs offered, or organizational structure, if necessary.

- o **Traffic Mitigation:** As part of subdivision approval, individual traffic mitigation agreements should be negotiated with each developer, with security instruments provided in case of default. A developer could choose to participate in the services offered by the TMO; this does not in itself guarantee compliance with any traffic mitigation agreement. The Planning Board would continue to monitor compliance with these individual traffic mitigation agreements.

TRANSIT SERVICE

- o Re-establish express bus service along any future HOV lane to and from Rock Spring Park.

The previous express service, which traveled from Montgomery Village to Rock Spring Park, was discontinued after I-270 was widened, due to declining ridership. The designation of an HOV lane on I-270 offers the potential for a successful resuscitation of this service, complementing vanpool and carpools traveling to a major employment center within North Bethesda.

- o Increase transit and shuttle services.

TRANSIT ORIENTED DEVELOPMENT GUIDELINES

The 1992 Master Plan recommends that new development in North Bethesda - Garrett Park be transit oriented. In addition to the appropriate mix of uses and densities, a transit oriented development consists of a street pattern that minimizes walking and biking distances to transit and services and an environment that promotes walking and biking. As a result, the number of people who may use transit and walk or bike to other services is maximized.

Transit oriented development consists of a fine grained network of interconnected streets. Several are noted in this Staging Amendment as new streets to be obtained through dedication in the subdivision process. The short blocks, which may be supplemented by diagonal walkways, minimize walking distances. A safe and attractive network of bikeways with access to major destinations is also provided.

An important attribute of transit oriented development is its pedestrian orientation. Walking is a prerequisite for maximum use of transit. People are willing to walk longer on paths that are interesting, active, comfortable, and safe from cars and crime. With the increased willingness to walk, some of the short trips to retail and services will be done on foot given the appropriate mix of uses. An added benefit of pedestrian oriented streets is that they encourage human interaction and thus promote a sense of community.

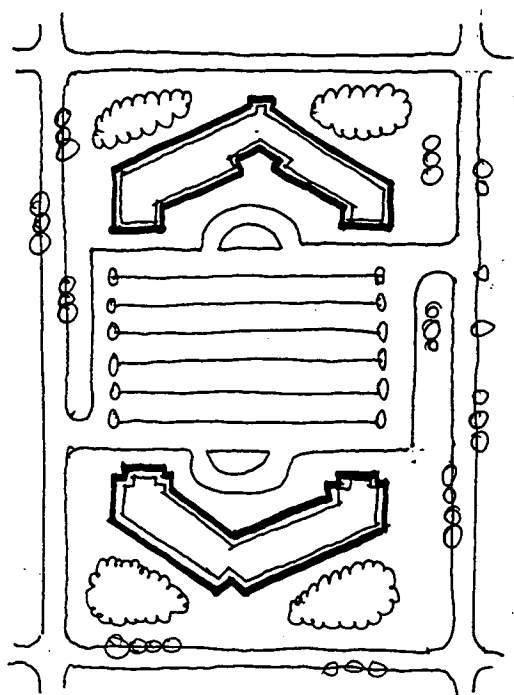
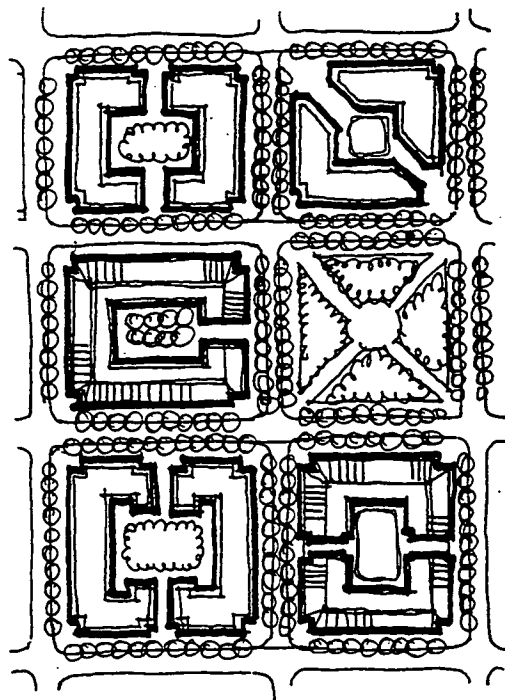
The following guidelines are intended to promote transit oriented development in North Bethesda-Garrett Park (see Figure 10):

DEVELOPMENT

p a t t e r n s

Transit Oriented

- An appropriate mix of uses within walking and biking distances
- Fine grained network of interconnected streets that minimize walking and biking distances
- Small blocks
- Buildings clustered along the streets to form a continuous building line
- Compact development; buildings close together.
- A good proportional relationship between buildings' heights and streets' widths.
- Street activating uses to maintain "Eyes on the Street".
- Attractive streetscaping consisting of adequate sidewalks with street trees and safe, frequent, crosswalks.



Auto Oriented

- Uses separated and buffered
- Lack of interconnectivity; major public streets are supplemented by private driveways
- Large blocks
- Large building setbacks; lack of street definition
- Buildings widely separated; building footprint is minimized
- Parking lots separate buildings from the street
- Lack of consistent streetscaping and continuous sidewalks.

1. MIX OF LAND USES

An appropriate mix of uses - residences, retail, offices, and, community facilities - should be provided within walking and biking distances. This mix would allow people to walk and bike for many of their daily trips and would create an active environment.

2. STREETS FOR ALL TYPES OF TRAVEL

Streets should be designed to accommodate all designated users - pedestrians, bicyclists, transit, and vehicles. Some streets may provide pedestrian and biking linkages only.

3. FINE GRAINED NETWORK OF INTERCONNECTED STREETS AT METRO AREAS

The street pattern should consist of a fine grained network of interconnected streets that minimize walking and biking distances to transit stops and services and provide for internal circulation. The resulting small blocks should be approximately 200 to 400 feet long and cover an area of 1 to 3 acres.

4. COMPACT, STREET ORIENTED DEVELOPMENT

Buildings should be clustered along the streets to form a continuous building line which defines the street as an "outdoor room". The resulting development should be compact with buildings close together. A desirable ratio of approximately 1:1 between the buildings' heights and the street widths should be maintained in many streets to provide adequate light and air and avoid the creation of canyons.

5. PEDESTRIAN ORIENTATION

Human scale should be provided along the street through variety and articulation in the architecture of buildings.

Interest and security should be maintained along the street through the provision of street activating uses and multiple building entrances, thereby maintaining "Eyes on the Street".

Comfort, safety, and convenience should be achieved through the provision of attractive streetscaping consisting of adequate sidewalks with street trees and safe, frequent, crosswalks.

G. Stage II (Mid-Term)

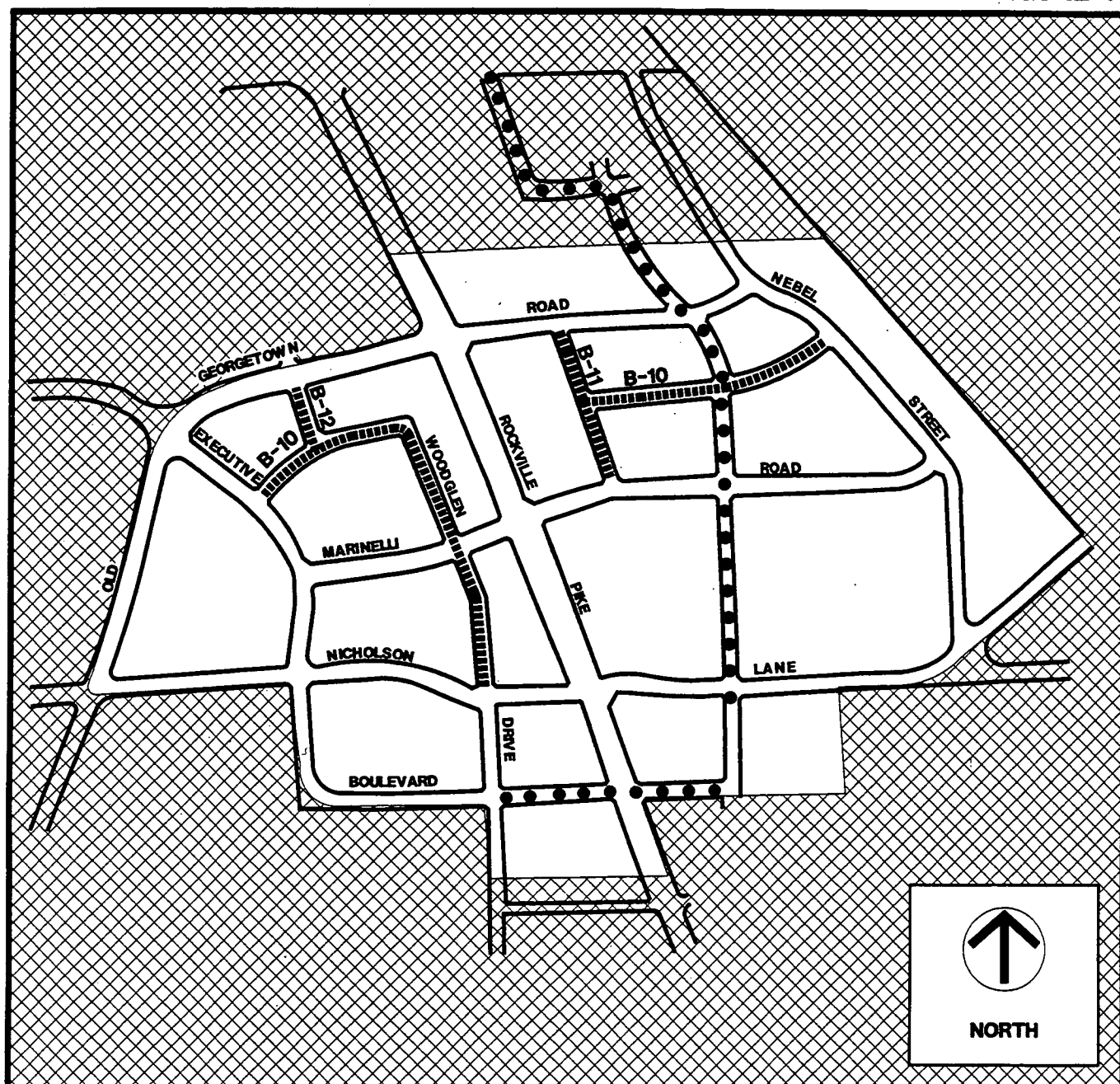
Stage II development may commence if and when traffic capacity is determined to be adequate following additional comprehensive transportation review and improvements necessary for local circulation have been programmed.

Stage II refers to any development in addition to that in Stage I as provided in the 1994 AGP. It contains few specific recommendations and no staging ceiling figures because the timing and location of future development cannot be ascertained at this time. Future AGPs should determine where, when, and by how much to increase staging ceilings for jobs and housing units above Stage I. There is no specific time period anticipated for Stage II and there is no requirement that all the facilities and development in Stage I be complete before Stage II may begin. Rather, the staging of development and transportation improvements should be related by geography and tied to public policies, issues and objectives, not to a rigid point in time. There are a variety of factors that influence the timing and desired location of development including traffic conditions, federal, state and County laws and policies, market forces and other factors. Assumptions with respect to any of these factors made at the time of a master plan adoption may prove to be inaccurate over a period of time. Consequently, the staging of development should be reviewed periodically with adjustments to it as appropriate to meet changes in these factors.

At a minimum, programs and facilities during Stage II should include the following:

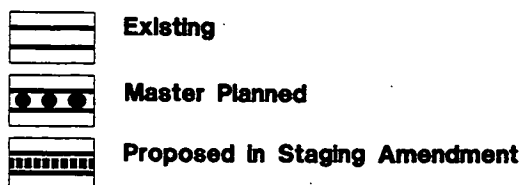
- a. The funding of one or more significant transportation improvements including:
 - o Interchange improvements on one or both I-270 spurs providing direct access into Rock Spring Park, or
 - o The Montrose Parkway, or
 - o A high-quality transit connection from Montgomery Mall to the Grosvenor Metro Station, or
 - o Nebel Street extended (from Randolph Road to Chapman Avenue), or
 - o Intersection improvements determined by the comprehensive local area transportation review, and other business district streets recommended in this staging amendment. Construction of direct access ramps from I-270 to Rock Spring Park and construction of the Montrose Parkway are considered to be of paramount importance and the highest priority.

FIGURE 11



WHITE FLINT SECTOR PLAN AREA

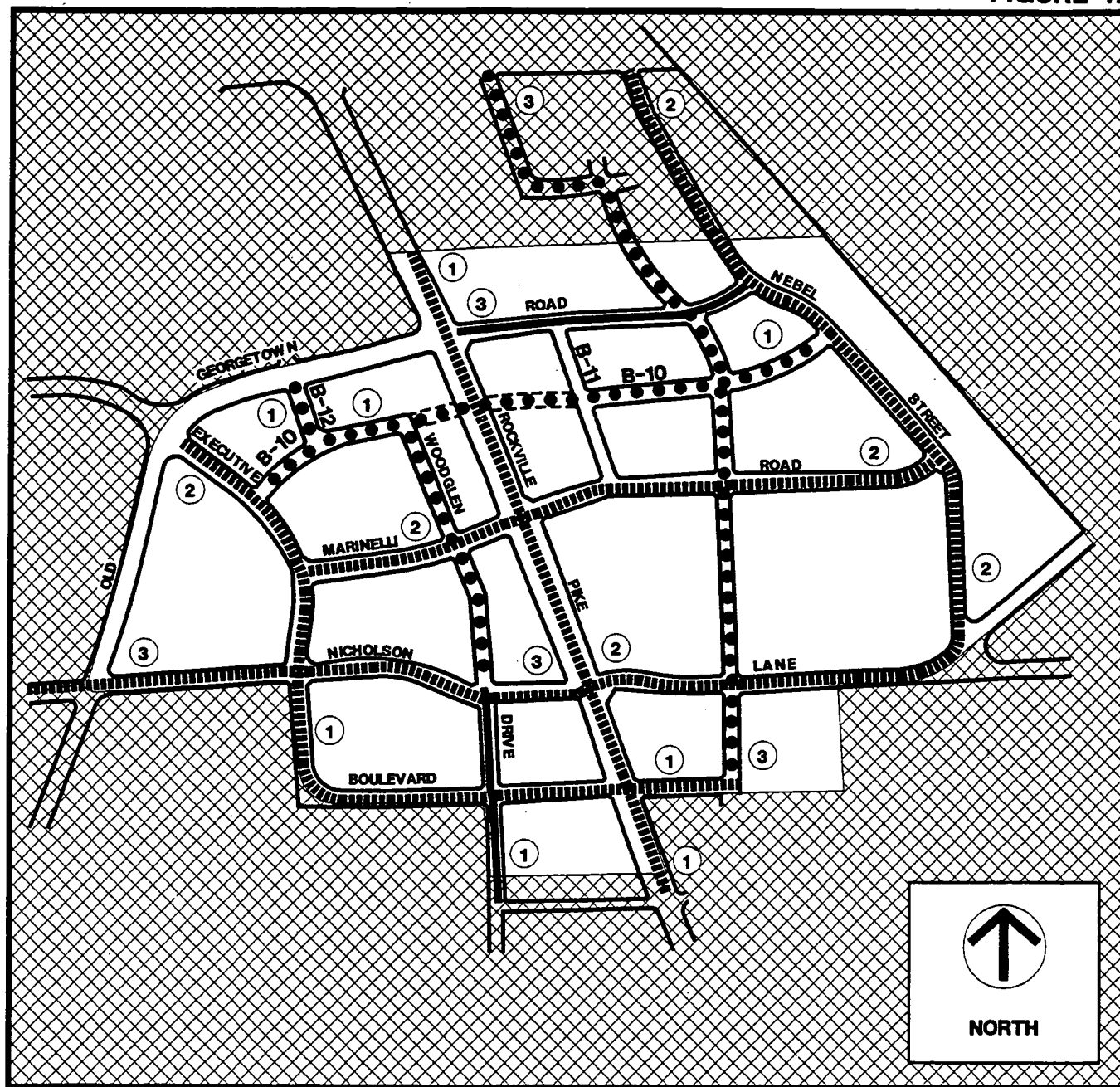
Existing, Planned, and Proposed Ultimate Street System



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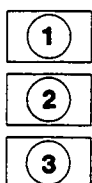
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FIGURE 12



WHITE FLINT SECTOR PLAN AREA

Existing, Planned, and Proposed Bikeway System



- Class I**
A Bikeway on a Separate Right-of-Way or Easement
- Class II**
A Bike Lane on a Roadway Designated by Striped Pavement or a Physical Barrier
- Class III**
A Bike Route on a Roadway Designated by Sign Only

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- b. The possibility of parking charges in North Bethesda after a study addressing the relationship of County-imposed parking charges in North Bethesda to possible parking charges, either imposed region-wide as a means of attaining the requirements of the Clean Air Act, or imposed throughout the I-270 Corridor as a long-term means of addressing problems of congestion.
- c. Mandatory participation in the TMO or in TDM activities sanctioned by the TMO for all existing employers.
- d. Further increases in transit service.
- e. Further bicycle and pedestrian improvements.
- f. Expanded high-occupancy vehicle usage on I-270.
- g. In general, future development in the geographic areas listed below would be associated with the following transportation improvements:

White Flint

- 1. Chapman Avenue, from Old Georgetown Road to Randolph Road
- 2. Other business district streets and bikeways recommended as part of the Staging Amendment (see Figures 6 and 7).
- 3. Operational or capacity improvements to selected intersections
- 4. Increased feeder bus service

Twinbrook

- 1. Nebel Street Extended, from Randolph Road to Chapman Avenue
- 2. A commuter rail station (MARC) at Montrose Crossing
- 3. Increased feeder bus service

Rock Spring Park

- 1. Direct access ramp from the east spur of I-270 (west of Old Georgetown Road)
- 2. Direct access ramp from the west spur of I-270 (at Fernwood Bridge)
- 3. High quality transit connection to Grosvenor Metrorail station

All Areas

1. Montrose Parkway
2. Selected operational and intersection improvements
3. Increased frequency of commuter rail and Metrorail service
4. Increased feeder bus service

H. Stage III (Long-Term)

In approximately 10-15 years, an amendment to the North Bethesda Master Plan will be needed. Prior to the Plan Amendment, the relationship between new development and travel congestion should be monitored through the transportation analysis for the AGP. At the time of the Plan Amendment, a new comprehensive transportation study should be prepared to determine what additional transportation management programs and transportation facilities are required. The analysis must also determine that transportation capacity conditions meet AGP standards at that time. The study may address a variety of ways to meet congestion standards, including:

- o Increased transit service
- o Additional improvements to the bikeway and pedestrian network
- o Additional intersection and roadway improvements

I. Conclusions

This staging element is intended to guide future development recommended in the North Bethesda-Garrett Park Master Plan approved by the Montgomery County Council in November, 1992 and adopted by The Maryland-National Capital Park and Planning Commission in December, 1992. It, like the Master Plan itself, is intended to be a flexible guide. Development and transportation facilities recommended by the Master Plan discussed in this staging element are controlled by other laws, regulations and policies. Additionally, the Master Plan and staging element may be amended from time to time as circumstances change.

APPENDIX

Transportation Analysis

The transportation analysis had three objectives:

- identify congested intersections during stage I
- identify intersection improvements to those intersections
- estimate the impact to the transportation system, and to those intersections, of transportation demand management actions in North Bethesda.

This Appendix provides background information on the techniques used to develop the transportation recommendations found in the staging amendment, and details on the intersection analysis.

Identify Congested Intersections: A Comprehensive Local Area Transportation Review (CLATR) is an essential part of a staging analysis. In the CLATR, the focus is the intersection level of service, in contrast to the roadway segment average area-wide level of service that is used in the Annual Growth Policy (AGP). The CLATR proceeds in two steps: first, estimate the number of trips leaving or entering the policy area and the roads used by those trips, and second, forecast the routing of trips within the study area and the resulting intersection levels of service. TRAVEL 2.0, the regional transportation model, is used for the first step. This model accounted for regional growth that is estimated to occur during Stage I. The effect on vehicle trips of HOV implementation was also estimated using TRAVEL 2.0.

Once information on the 'external' vehicle trips is estimated, it is fed into the second stage of the analysis. The analysis tool at this stage is comprised of a highly detailed roadway network that factors intersection delay into the routing of vehicle trips on that network. Called SLATE (System for Local Area Traffic Estimation), this analytic process involves the application of trip generation rates used for local area review purposes to development at the parcel or census block level.

The intersections identified as beyond the standards during Stage I were then analyzed for possible intersection improvements. The full list of improvements considered is presented below. The estimates include a discounting for the effect of transportation demand management (TDM) actions likely to be taken by the TMO. TDM reductions were made for the proportion of total trips that are work to home trips only, estimated to be between 60 and 70 percent.

**IMPROVEMENTS TO SELECTED INTERSECTIONS WITHIN METRO AREAS
EVENING (PM) PEAK HOUR CRITICAL LANE VOLUMES (CLV)**

MD 355 & NICHOLSON LANE (CLV STANDARD - 1,800)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
2000	2000	1855	<u>Existing Configuration</u>
	1659	1513	A: Add NB through
	* 1649	1535	B: Prohibit NB & SB lefts
	1929	1716	C: Nicholson & Marinelli to one-way pairs
	1355	1267	A & B
	1616	1460	A & C

MD 355 & TUCKERMAN LANE (CLV STANDARD - 1800)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1490	1572	1444	NONE

MD 355 & GROSVENOR LANE (CLV STANDARD - 1800)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1420	1654	1605	NONE

* Recommended improvements

**IMPROVEMENTS TO SELECTED INTERSECTIONS OUTSIDE METRO AREAS
EVENING (PM) PEAK HOUR CRITICAL LANE VOLUMES (CLV)**

MD 355 & TWINBROOK PARKWAY (CLV STANDARD - 1525)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1810	2000	2000	<u>Existing Configuration</u>
	2000	1962	A: Prohibit NB & SB lefts
	1978	1788	B: Add right to all approaches
	2000	1919	C: Add NB & SB right
	1945	1738	D: Add NB & SB through
	2000	2000	E: Add EB through
	2000	2000	F: Add WB through
	1788	1643	A & B
	1763	1500	B & D
	2000	1791	C & E
	2000	1912	C & F
	2000	1960	E & F
	* 1950	1791	B & E & F

OLD GEORGETOWN ROAD & TUCKERMAN LANE (CLV STANDARD - 1525)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1810	2000	2000	<u>Existing Configuration</u>
	1972	1929	A: Reconfigure EB & WB approach
	2071	2026	B: Reconfigure EB & WB approach
	1899	1829	C: Add NB left
	1732	1677	A&C
	1831	1775	B & C, w/ E/W split phasing
	* 1665	1660	B & C, w/o E/W split phasing

* Recommended improvements

MD 355 & RANDOLPH ROAD (CLV STANDARD - 1525)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1700	2000	1888	<u>Existing Configuration</u>
	1892	1728	A: Add EB right
	2000	1794	B: Prohibit NB lefts
	1841	1652	C: Add NB through
	* 1713	1628	D: Reconfigure EB, WB and add EB lane
	1892	1747	A & B
	1643	1548	A & C

MONTROSE ROAD & JEFFERSON STREET (CLV STANDARD - 1525)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1830	2000	2000	<u>Existing Configuration</u>
	1835	1726	A: Reconfigure and add NB lane
	1942	1827	B: Add SB right
	2000	1815	C: Reconfigure and add EB lane
	1733	1646	A & B
	* 1494	1409	A & B & C

ROCKING HORSE ROAD & RANDOLPH ROAD (CLV STANDARD - 1525)

<u>1990</u>	STAGE I w/TDM 100% <u>PIPELINE</u>	STAGE I w/TDM 50% <u>PIPELINE</u>	<u>IMPROVEMENT</u>
1630	1772	1712	<u>Existing Configuration</u>
	*1559	1537	A: Add NB Right
	1741	1699	B: Add EB Right
	1528	1484	A & B

* Recommended improvements

TRANSPORTATION DEMAND MANAGEMENT ANALYSIS

A computer-based analysis process was used to estimate the likely impact of TDM measures upon the transportation system. The Comsis Corporation TDM model estimates trip reduction based upon the experience of travel demand management programs around the country, and allows for some customizing to account for local conditions. The Metropolitan Washington Council of Governments is using this same model in its evaluation of TDM actions related to air quality.

The model accounts for two categories of TDM strategies, area-wide and employer-based. Area-wide are those available to all travelers and are not subject to the participation of employers, such as HOV implementation and increased feeder bus service. Since this model cannot estimate travel time savings from enhanced transit options, the regional model, TRAVEL 2.0, was used to gauge the impact of area-wide strategies. In this case, the only area-wide strategy for which TRAVEL 2.0 was used was for HOV implementation.

The employer-based TDM strategies are those typical of any employer implementing a TDM program. The model allows for the testing of several possible actions including carpool, vanpool and transit programs and alternative work schedules. The analyst can test for varying levels of support for these actions, including the provision of economic and non-economic incentives. Non-economic incentives include measures such as guaranteed rides home, aggressive marketing, and preferential parking. The model also differentiates TDM effects based on employment category and size of employer, because these variables have been found to be significant in the success of TDM.

ACKNOWLEDGMENTS

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